



# Full wwPDB X-ray Structure Validation Report ⓘ

May 27, 2024 – 08:47 PM EDT

PDB ID : 6MD9  
Title : NON-RECEPTOR PROTEIN TYROSINE PHOSPHATASE SHP2 IN COM-  
PLEX WITH ALLOSTERIC INHIBITOR Isoxazolo-pyridinone 3  
Authors : Fodor, M.; Stams, T.  
Deposited on : 2018-09-04  
Resolution : 2.12 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtrriage (Phenix) : 1.13  
EDS : 2.36.2  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36.2

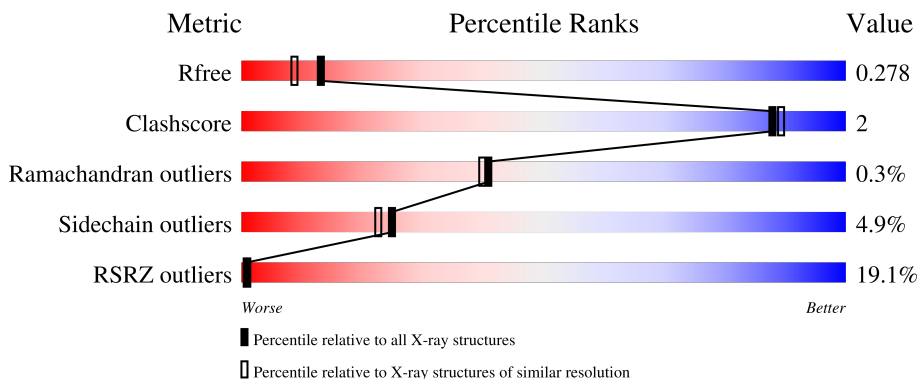
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.12 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	6241 (2.14-2.10)
Clashscore	141614	6778 (2.14-2.10)
Ramachandran outliers	138981	6705 (2.14-2.10)
Sidechain outliers	138945	6706 (2.14-2.10)
RSRZ outliers	127900	6112 (2.14-2.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	526	<div style="display: flex; align-items: center;"> <div style="width: 18%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 82%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div>
1	B	526	<div style="display: flex; align-items: center;"> <div style="width: 16%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 79%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div>

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 8372 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

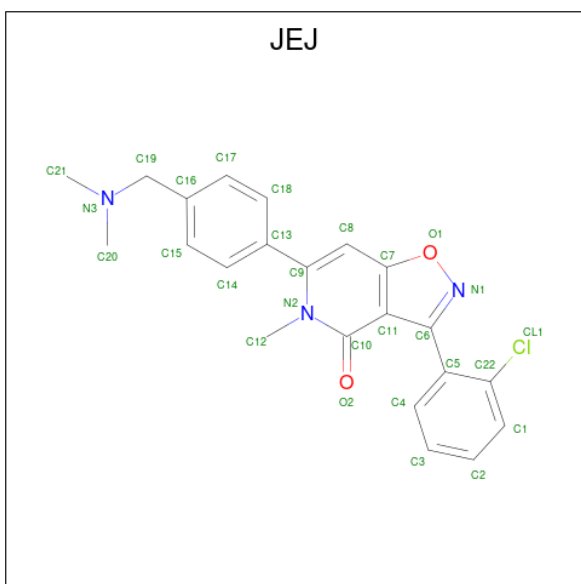
- Molecule 1 is a protein called Tyrosine-protein phosphatase non-receptor type 11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	468	3802	2401	674	709	18	0	1	0
1	B	470	3838	2426	681	711	20	0	4	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	SER	-	expression tag	UNP Q06124
B	0	SER	-	expression tag	UNP Q06124

- Molecule 2 is 3-(2-chlorophenyl)-6-{4-[(dimethylamino)methyl]phenyl}-5-methyl[1,2]oxazolo[4,5-c]pyridin-4(5H)-one (three-letter code: JEJ) (formula: C<sub>22</sub>H<sub>20</sub>ClN<sub>3</sub>O<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
2	A	1	Total	C	Cl	N	O	0	0
			28	22	1	3	2		
2	B	1	Total	C	Cl	N	O	0	0
			28	22	1	3	2		

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O<sub>4</sub>P).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	O P	0	0
			5	4 1		
3	B	1	Total	O P	0	0
			5	4 1		
3	B	1	Total	O P	0	0
			5	4 1		

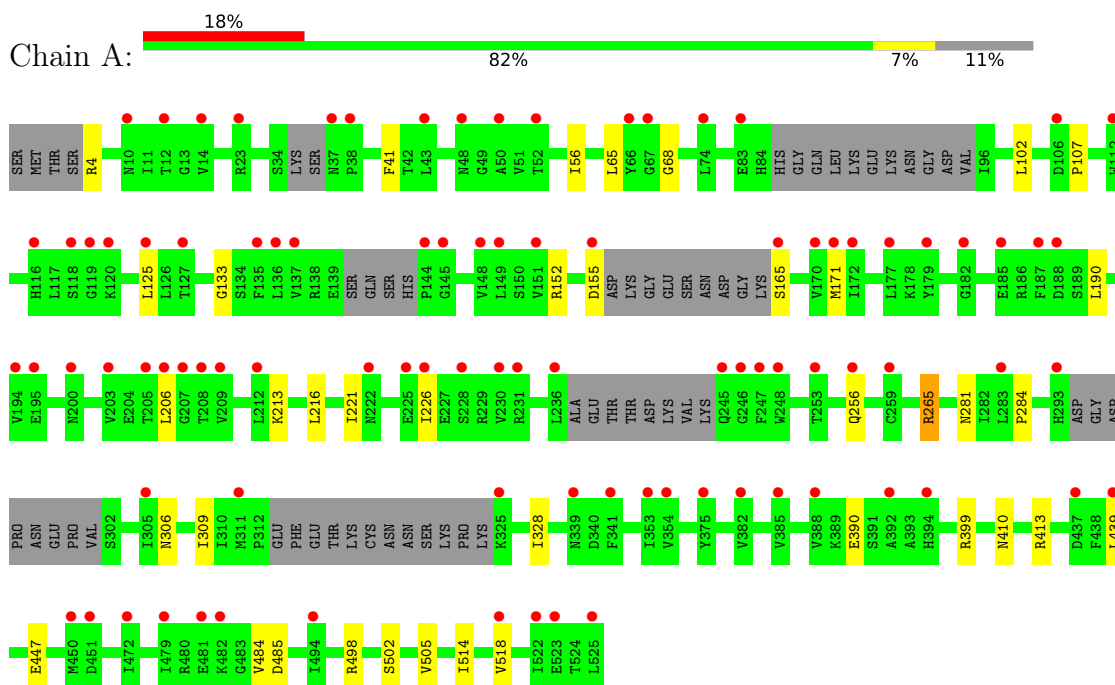
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	333	Total	O	0	0
			333	333		
4	B	328	Total	O	0	0
			328	328		

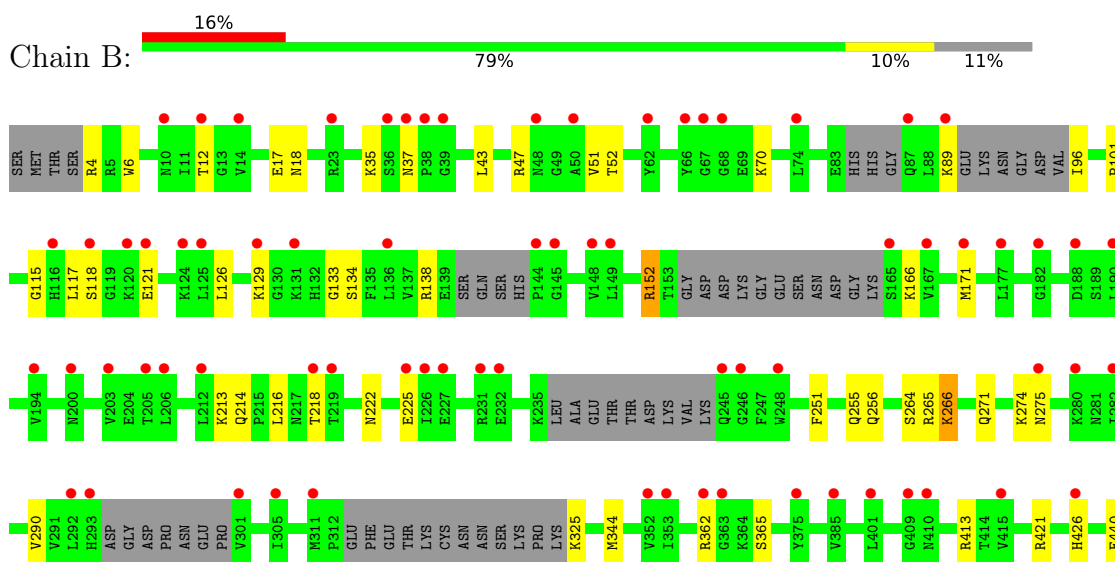
### 3 Residue-property plots

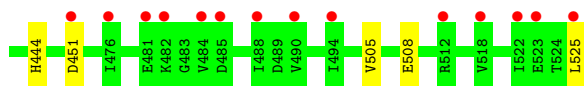
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Tyrosine-protein phosphatase non-receptor type 11



- Molecule 1: Tyrosine-protein phosphatase non-receptor type 11





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	46.34Å 213.96Å 55.83Å 90.00° 96.69° 90.00°	Depositor
Resolution (Å)	21.40 – 2.12 21.40 – 2.12	Depositor EDS
% Data completeness (in resolution range)	99.4 (21.40-2.12) 99.4 (21.40-2.12)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.69 (at 2.13Å)	Xtrriage
Refinement program	BUSTER	Depositor
R, $R_{free}$	0.218 , 0.272 0.225 , 0.278	Depositor DCC
$R_{free}$ test set	3045 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	28.8	Xtrriage
Anisotropy	0.632	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.35 , 63.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	8372	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	37.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 13.43% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: PO4, JEJ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.51	0/3881	0.67	0/5230
1	B	0.51	0/3925	0.68	0/5286
All	All	0.51	0/7806	0.68	0/10516

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3802	0	3749	13	0
1	B	3838	0	3811	17	0
2	A	28	0	0	0	0
2	B	28	0	0	0	0
3	A	5	0	0	0	0
3	B	10	0	0	0	0
4	A	333	0	0	2	0
4	B	328	0	0	0	0
All	All	8372	0	7560	30	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.



All (30) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133:GLY:HA3	1:B:213:LYS:HB2	1.73	0.69
1:A:390:GLU:HG2	1:A:399:ARG:HG2	1.76	0.67
1:B:271:GLN:HA	1:B:274:LYS:HE2	1.82	0.60
1:A:256:GLN:HG3	4:A:846:HOH:O	2.04	0.58
1:A:133:GLY:HA3	1:A:213:LYS:HB2	1.84	0.57
1:A:309:ILE:HD13	1:A:328:ILE:HG12	1.91	0.53
1:B:264:SER:HB2	1:B:266:LYS:HD3	1.91	0.53
1:A:265:ARG:HH11	1:A:265:ARG:HB2	1.73	0.53
1:B:4:ARG:HD3	1:B:256:GLN:HA	1.90	0.52
1:B:290:VAL:HG11	1:B:344:MET:HG3	1.91	0.52
1:B:17:GLU:HG3	1:B:51:VAL:HB	1.92	0.50
1:B:129:LYS:HZ2	1:B:218:THR:HG22	1.78	0.48
1:A:125:LEU:HB3	1:A:216:LEU:HD21	1.94	0.48
1:B:440:GLU:HG3	1:B:444:HIS:CE1	2.49	0.47
1:A:41:PHE:HB2	1:A:56:ILE:HB	1.96	0.47
1:B:117:LEU:O	1:B:138:ARG:HD2	2.14	0.47
1:B:12:THR:HG22	1:B:35:LYS:HE3	1.98	0.46
1:B:129:LYS:HB2	1:B:216:LEU:HD11	1.97	0.45
1:B:222:ASN:O	1:B:225:GLU:HG2	2.17	0.45
1:A:514:ILE:O	1:A:518:VAL:HG23	2.17	0.45
1:A:4:ARG:HD3	1:A:256:GLN:HA	2.00	0.44
1:A:498:ARG:HD3	4:A:973:HOH:O	2.18	0.43
1:A:65:LEU:HD23	1:A:68:GLY:HA3	2.00	0.43
1:A:284:PRO:HG3	1:A:306:ASN:HA	2.00	0.43
1:B:126:LEU:HD22	1:B:152:ARG:HB2	2.00	0.42
1:A:107:PRO:HG3	1:A:190:LEU:HD12	2.03	0.41
1:B:525:LEU:HD12	1:B:525:LEU:HA	1.93	0.41
1:B:6:TRP:HB3	1:B:101:PRO:HB3	2.02	0.40
1:B:134:SER:HA	1:B:214:GLN:O	2.21	0.40
1:B:251:PHE:O	1:B:255:GLN:HG2	2.22	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	453/526 (86%)	435 (96%)	17 (4%)	1 (0%)	47	48
1	B	458/526 (87%)	446 (97%)	10 (2%)	2 (0%)	34	32
All	All	911/1052 (87%)	881 (97%)	27 (3%)	3 (0%)	41	40

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	505	VAL
1	A	505	VAL
1	B	115	GLY

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	417/468 (89%)	400 (96%)	17 (4%)	30	30
1	B	423/468 (90%)	397 (94%)	26 (6%)	18	15
All	All	840/936 (90%)	797 (95%)	43 (5%)	25	21

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	102	LEU
1	A	152	ARG
1	A	155	ASP
1	A	165	SER
1	A	171	MET
1	A	206	LEU
1	A	221	ILE
1	A	226	ILE
1	A	265	ARG
1	A	281	ASN

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Mol	Chain	Res	Type
1	A	410	ASN
1	A	413	ARG
1	A	439	LEU
1	A	447	GLU
1	A	484	VAL
1	A	485	ASP
1	A	502	SER
1	B	18[A]	ASN
1	B	18[B]	ASN
1	B	37	ASN
1	B	43	LEU
1	B	47	ARG
1	B	52	THR
1	B	70	LYS
1	B	89	LYS
1	B	96	ILE
1	B	118	SER
1	B	121	GLU
1	B	152	ARG
1	B	166	LYS
1	B	171	MET
1	B	265[A]	ARG
1	B	265[B]	ARG
1	B	266	LYS
1	B	275	ASN
1	B	325	LYS
1	B	362	ARG
1	B	365	SER
1	B	413	ARG
1	B	421	ARG
1	B	426	HIS
1	B	451	ASP
1	B	508	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	10	ASN
1	A	281	ASN
1	B	444	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

5 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	PO4	A	602	-	4,4,4	2.52	1 (25%)	6,6,6	0.52	0
3	PO4	B	602	-	4,4,4	2.47	1 (25%)	6,6,6	0.57	0
3	PO4	B	603	-	4,4,4	1.90	0	6,6,6	0.55	0
2	JEJ	B	601	-	27,31,31	1.44	3 (11%)	31,45,45	1.33	3 (9%)
2	JEJ	A	601	-	27,31,31	1.29	3 (11%)	31,45,45	1.20	2 (6%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	JEJ	B	601	-	-	1/10/12/12	0/4/4/4
2	JEJ	A	601	-	-	3/10/12/12	0/4/4/4

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	602	PO4	P-O1	4.14	1.60	1.50
3	B	602	PO4	P-O1	4.08	1.60	1.50
2	B	601	JEJ	C5-C6	-2.89	1.46	1.49
2	B	601	JEJ	C14-C13	2.26	1.43	1.39
2	A	601	JEJ	C5-C22	2.15	1.43	1.39
2	A	601	JEJ	C5-C6	-2.08	1.47	1.49
2	A	601	JEJ	C15-C16	2.03	1.43	1.38
2	B	601	JEJ	C5-C22	2.03	1.43	1.39

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	601	JEJ	O2-C10-N2	3.94	126.78	120.47
2	B	601	JEJ	O2-C10-N2	3.43	125.96	120.47
2	B	601	JEJ	C16-C19-N3	3.32	118.93	113.08
2	A	601	JEJ	O2-C10-C11	-2.96	118.72	124.25
2	B	601	JEJ	O2-C10-C11	-2.53	119.53	124.25

There are no chirality outliers.

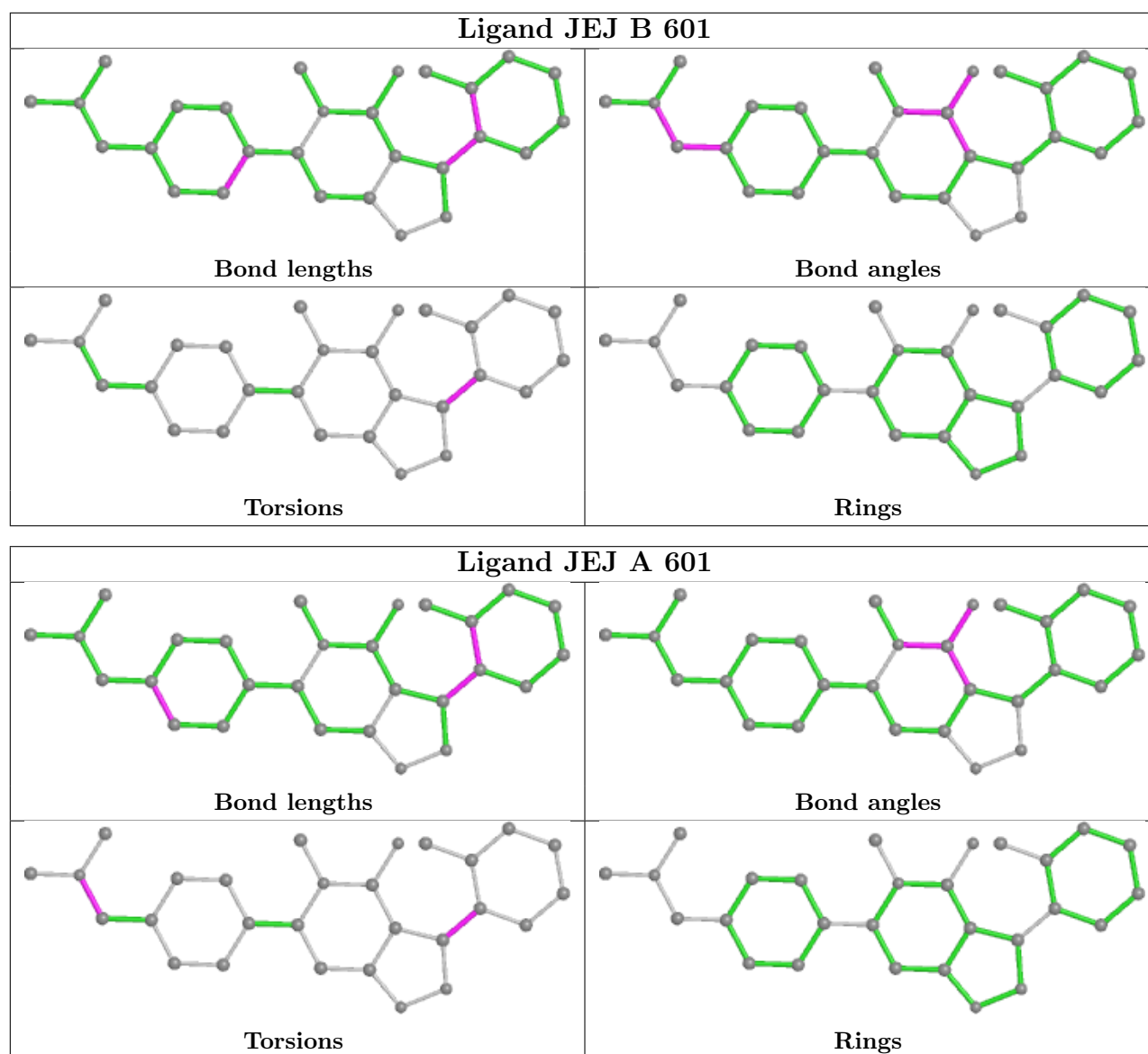
All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601	JEJ	C4-C5-C6-N1
2	B	601	JEJ	C4-C5-C6-N1
2	A	601	JEJ	C16-C19-N3-C20
2	A	601	JEJ	C16-C19-N3-C21

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	468/526 (88%)	1.22	93 (19%) <b>1</b> <b>1</b>	17, 36, 59, 91	0
1	B	470/526 (89%)	1.17	86 (18%) <b>1</b> <b>1</b>	14, 36, 58, 73	0
All	All	938/1052 (89%)	1.19	179 (19%) <b>1</b> <b>1</b>	14, 36, 59, 91	0

All (179) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	205	THR	10.2
1	A	207	GLY	6.4
1	A	120	LYS	6.3
1	B	248	TRP	6.3
1	B	426	HIS	6.2
1	B	144	PRO	5.9
1	B	206	LEU	5.8
1	B	246	GLY	5.7
1	B	177	LEU	5.3
1	A	525	LEU	5.2
1	A	66	TYR	4.8
1	B	205	THR	4.6
1	A	118	SER	4.6
1	B	301	VAL	4.3
1	B	171	MET	4.3
1	B	118	SER	4.3
1	A	48	ASN	4.2
1	A	165	SER	4.2
1	B	188	ASP	4.2
1	A	236	LEU	4.1
1	B	190	LEU	4.1
1	A	523	GLU	4.0
1	A	206	LEU	4.0
1	A	311	MET	3.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	145	GLY	3.9
1	A	305	ILE	3.9
1	A	225	GLU	3.8
1	A	248	TRP	3.8
1	B	120	LYS	3.8
1	B	490	VAL	3.8
1	A	203	VAL	3.7
1	B	451	ASP	3.7
1	A	38	PRO	3.7
1	A	518	VAL	3.7
1	A	437	ASP	3.7
1	A	149	LEU	3.7
1	B	293	HIS	3.6
1	A	125	LEU	3.6
1	A	394	HIS	3.5
1	A	179	TYR	3.5
1	A	246	GLY	3.5
1	A	171	MET	3.5
1	B	37	ASN	3.5
1	A	439	LEU	3.4
1	A	127	THR	3.4
1	A	151	VAL	3.3
1	A	182	GLY	3.3
1	A	177	LEU	3.3
1	B	89	LYS	3.2
1	B	482	LYS	3.2
1	A	43	LEU	3.2
1	B	231	ARG	3.2
1	A	212	LEU	3.2
1	A	188	ASP	3.2
1	A	353	ILE	3.2
1	B	245	GLN	3.1
1	A	259	CYS	3.1
1	B	484	VAL	3.1
1	B	518	VAL	3.1
1	B	149	LEU	3.1
1	B	194	VAL	3.1
1	B	311	MET	3.0
1	B	212	LEU	3.0
1	A	37	ASN	3.0
1	A	522	ILE	3.0
1	B	385	VAL	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	409	GLY	2.9
1	A	155	ASP	2.9
1	B	14	VAL	2.9
1	A	144	PRO	2.9
1	A	83	GLU	2.9
1	A	482	LYS	2.9
1	A	12	THR	2.9
1	B	232	GLU	2.8
1	A	226	ILE	2.8
1	B	38	PRO	2.8
1	B	68	GLY	2.8
1	A	74	LEU	2.8
1	B	36	SER	2.8
1	A	450	MET	2.7
1	B	145	GLY	2.7
1	B	522	ILE	2.7
1	B	165	SER	2.7
1	B	275	ASN	2.7
1	B	167	VAL	2.7
1	A	200	ASN	2.7
1	B	116	HIS	2.7
1	B	66	TYR	2.7
1	B	219	THR	2.7
1	B	23	ARG	2.7
1	B	485	ASP	2.7
1	B	401	LEU	2.7
1	B	523	GLU	2.6
1	A	135	PHE	2.6
1	B	10	ASN	2.6
1	B	352	VAL	2.6
1	B	305	ILE	2.6
1	B	182	GLY	2.6
1	A	52	THR	2.6
1	A	106	ASP	2.6
1	A	185	GLU	2.6
1	B	375	TYR	2.5
1	A	245	GLN	2.5
1	A	481	GLU	2.5
1	A	325	LYS	2.5
1	B	525	LEU	2.5
1	B	512	ARG	2.5
1	A	451	ASP	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	494	ILE	2.5
1	B	74	LEU	2.5
1	B	476	ILE	2.5
1	A	187	PHE	2.5
1	A	50	ALA	2.5
1	B	227	GLU	2.5
1	A	119	GLY	2.4
1	B	62	TYR	2.4
1	B	353	ILE	2.4
1	B	125	LEU	2.4
1	B	226	ILE	2.4
1	B	363	GLY	2.4
1	B	200	ASN	2.4
1	A	494	ILE	2.4
1	A	136	LEU	2.4
1	B	67	GLY	2.4
1	A	231	ARG	2.4
1	A	170	VAL	2.4
1	A	209	VAL	2.4
1	B	50	ALA	2.4
1	A	253	THR	2.4
1	B	362	ARG	2.4
1	A	341	PHE	2.4
1	A	14	VAL	2.4
1	A	148	VAL	2.4
1	A	195	GLU	2.4
1	A	23	ARG	2.4
1	B	481	GLU	2.3
1	B	415	VAL	2.3
1	A	116	HIS	2.3
1	A	67	GLY	2.3
1	B	136	LEU	2.3
1	B	410	ASN	2.3
1	A	137	VAL	2.3
1	A	194	VAL	2.3
1	A	10	ASN	2.3
1	A	388	VAL	2.3
1	A	172	ILE	2.3
1	B	225	GLU	2.3
1	B	129	LYS	2.2
1	A	382	VAL	2.2
1	B	148	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	283	LEU	2.2
1	B	292	LEU	2.2
1	A	230	VAL	2.2
1	B	124	LYS	2.2
1	A	222	ASN	2.2
1	A	339	ASN	2.2
1	A	293	HIS	2.2
1	A	112	TRP	2.2
1	B	131	LYS	2.2
1	A	247	PHE	2.2
1	A	354	VAL	2.2
1	A	392	ALA	2.2
1	B	280	LYS	2.2
1	A	208	THR	2.1
1	B	12	THR	2.1
1	B	218	THR	2.1
1	B	282	ILE	2.1
1	A	375	TYR	2.1
1	B	121	GLU	2.1
1	B	87	GLN	2.1
1	A	228	SER	2.0
1	B	48	ASN	2.0
1	A	256	GLN	2.0
1	A	385	VAL	2.0
1	B	203	VAL	2.0
1	A	472	ILE	2.0
1	B	39	GLY	2.0
1	A	479	ILE	2.0
1	B	488	ILE	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.3 Carbohydrates [i](#)

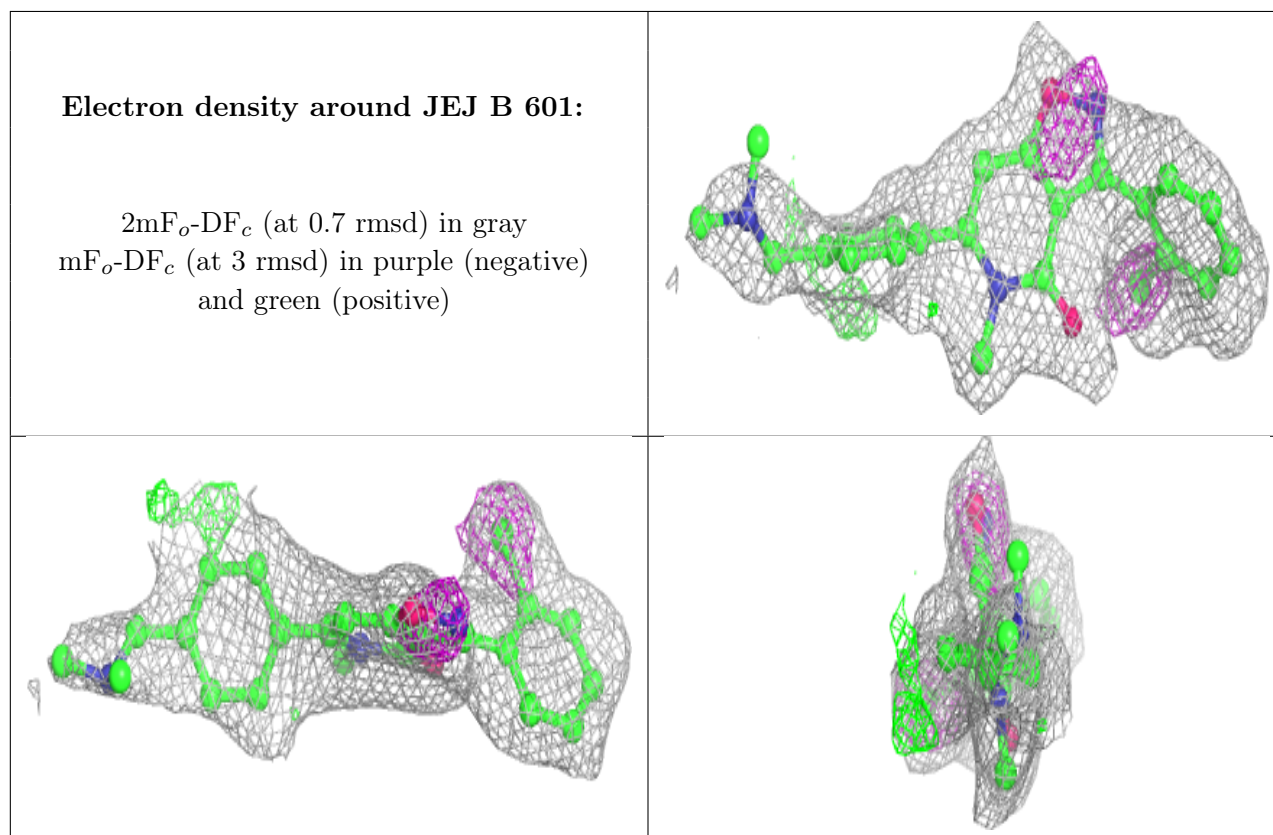
There are no monosaccharides in this entry.

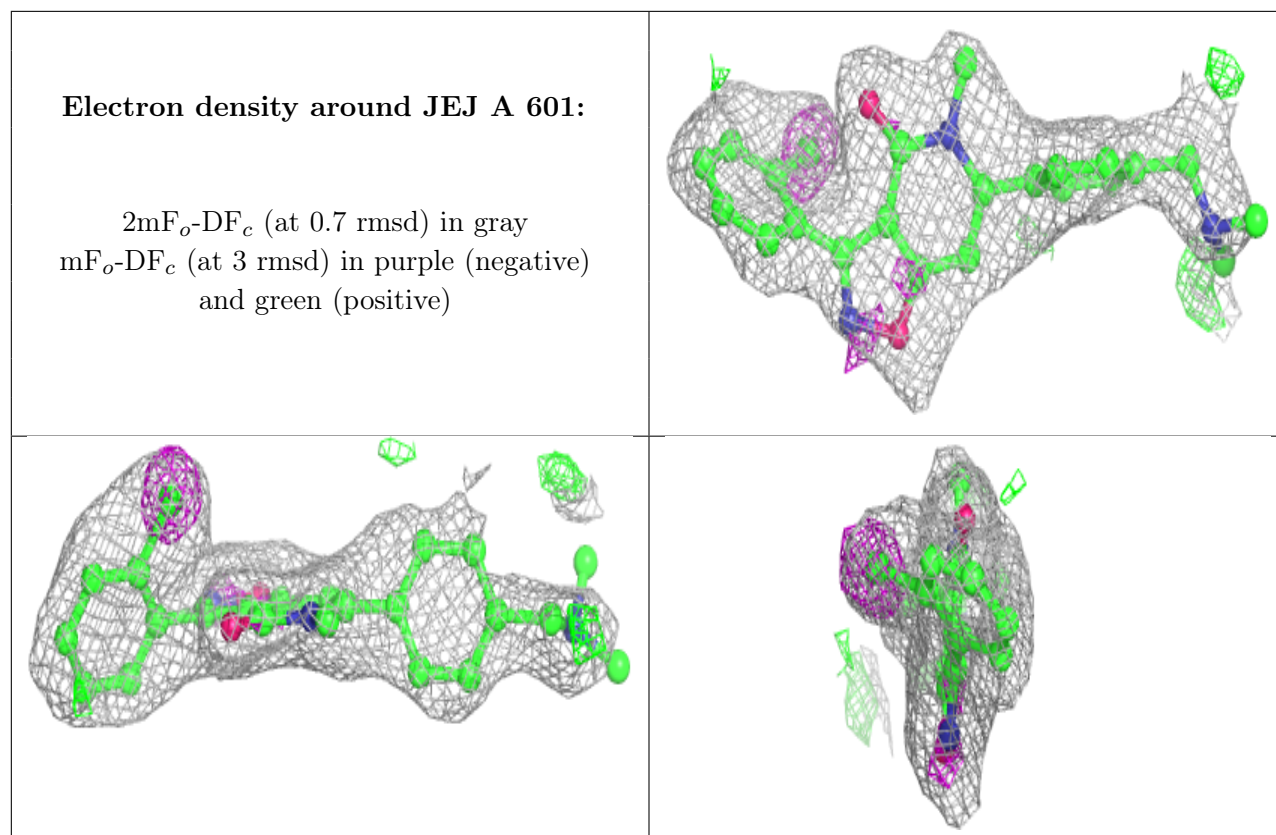
## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
3	PO4	B	603	5/5	0.50	0.39	103,105,105,106	0
2	JEJ	B	601	28/28	0.80	0.20	29,40,56,57	0
2	JEJ	A	601	28/28	0.83	0.19	31,38,50,53	0
3	PO4	A	602	5/5	0.84	0.18	68,69,70,71	0
3	PO4	B	602	5/5	0.92	0.12	46,46,46,50	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.





## 6.5 Other polymers [i](#)

There are no such residues in this entry.